

MAINE FIRE PROTECTION SERVICES COMMISSION TRAINING FACILITIES COMMITTEE

(May 2002 - May 2004)

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EXECUTIVE SUMMARY

The Training Facilities Committee (“the committee”) was appointed by vote of the Maine Fire Protection Services Commission on April 1, 2002 to study the need for a state firefighter training facility, and to recommend the most appropriate location for such a facility. The committee began meeting in May 2002, and has completed a preliminary study of fire and emergency medical services (EMS) training facilities needs in Maine.

This report provides an overview of the study methods used, observations and trends identified to date, and next steps required to complete a comprehensive construction and management program for fire and emergency services training facilities in Maine.

Preliminary Study

The committee conducted a survey of fire and EMS chiefs statewide during the summer of 2002 to collect data on the current training situation and preferences for training facilities. Survey observations and trends were analyzed by the committee and are provided in this report.

Committee members researched and developed an overview of the types of training needed for fire and emergency services responders. Types of training for fire and emergency services responders include core, enhanced and specialty.

The committee determined that each of the three types of training require specialized training facilities. Survey data provided preliminary guidance on the estimated number and geographic location of facilities that may be necessary to support core, enhanced and specialized training for the thousands of emergency responders in Maine.

An initial inventory of the 29 existing fire and emergency services training facilities in Maine was conducted, and the data is included in this report.

Recommendations

Based on identified current conditions and survey observations and trends, the committee makes the following recommendations:

- There is a need for a state fire and emergency services training academy in Maine to serve the need for core, enhanced and specialized training for emergency responders. The facility should be funded by federal and state resources.
- In addition, there is a need for a limited number of regional training academies in Maine to serve the need for core and enhanced training. Facilities should be located within 60 minutes travel time of 90% of Maine’s fire and emergency services responders. The regional training academies should be funded by federal, state, and county resources.
- In addition to the state and regional academies, there is a need for a few local training facilities in Maine to serve the need for core training. Facilities should be located within 30 minutes travel time of 90% of Maine’s fire and emergency services responders. Local training facilities should be funded by local and county resources, supported by grants from federal and state agencies.
- A formal study should be conducted to plan and implement a comprehensive training facilities construction and management program and include state, regional and local training facilities to meet the needs of Maine’s fire and emergency services responders.

The committee wishes to thank Susan Pinette, Fire Commission staffer, for her assistance in preparing this report.

FIRE COMMISSION AUTHORITY

The Maine Legislature established the Maine Fire Protection Services Commission (Fire Commission) in 2000 (5 MRSA Chapter 319 §3371) to monitor and evaluate the State's fire protection services system. The Legislature charged the Fire Commission with providing recommendations to the Governor and the Legislature regarding necessary changes in Maine's fire protection services system. The Fire Commission is required to regularly advise the Governor, the Legislature, municipal fire departments and other parties affected by its recommendations. The minutes of all Fire Commission meetings are available on the Fire Commission's website (www.state.me.us/DPS/FMO/firecomm).

TRAINING FACILITIES STUDY ASSIGNMENT

The 120th Maine Legislature passed LD 936 and directed the Fire Commission to “conduct a study of the following:

1. *The need for a central fire fighting training academy in the State; and*
2. *If it finds there is a need for a central fire fighting training academy in the State, where the academy would most appropriately be located and the feasibility ... of creating a unified state fire and emergency medical services academy housed and administered as part of the Maine Criminal Justice Academy...*”

COMMITTEE ORGANIZATION AND PLANNING PROCESS

The training facilities committee met on a monthly and bi-monthly basis beginning on May 6, 2002. Members began by establishing a planning process and identifying planning goals, objectives and timeline.

Objective

The committee established the following objective:

To research and document the need for a centralized fire and EMS training facility as part of a comprehensive fire and emergency services training plan.

Strategies

Committee identified the following strategies to accomplish the objective: (see Appendix A for detail)

Preliminary Study: To be accomplished by the committee:

- Identify the primary audience served by facilities
- Identify training objectives to be taught at facilities
- Define the gaps in current training facilities capability
- Inventory training resources currently available

Formal Study: To be accomplished by an engineering and architectural services organization:

- Validate the preliminary study
- Inventory capability and condition of facilities currently available
- Identify the number and location of training facilities needed
- Develop a plan, including cost estimates, funding sources and implementation schedule for facilities location, construction and operations

PRELIMINARY STUDY

Problem Definition

Fighting fire and providing other emergency services (emergency medical care, anti-terrorism response, hazardous materials mitigation, technical rescue, etc.) are dangerous, demanding, and life-saving duties. Each of Maine's estimated 15,000 fire and emergency medical services (EMS) personnel need training and education to be prepared to serve citizens safely and effectively. While some of the training and education necessary to prepare emergency responders can be done – and is being done – in classrooms at existing facilities, much of the most important, and potentially hazardous, training must be done hands-on, under realistic or simulated emergency conditions. Conducting this essential hands-on training in a safe, uniform and timely manner requires specialized facilities.

Overview of Maine's Fire and Emergency Services Personnel: Maine citizens are served by an estimated 15,000 fire and emergency services personnel in more than 400 communities. Maine's communities are served by full-time career, paid on call and volunteer personnel. Becoming trained and keeping skills proficient is a significant challenge for all of Maine's emergency responders.

Community Expectations and Range of Fire and Emergency Services:

Maine citizens expect fire and emergency services personnel to provide a wider and wider range of emergency and non-emergency services, from combating structure fires to injury prevention advice. (Detail, Appendix A) Many of these services are hazardous, and require extensive preparation to ensure responder safety, service effectiveness and risk management. Training and retraining is a continuous responder challenge.

Compliance Requirements: Fire and emergency services activities can be hazardous. Federal and state workplace safety laws and regulations - as well as fire and emergency services consensus standards -- mandate and guide training and education.

Maine state law requires “*training by the fire chief or his designee according to National Fire Protection Standards (NFPA)...*” [26 MRSA §2101(1)(C)]. Maine law and workplace safety regulations require “*training commensurate with the duties the employee is expected to perform...*” [26 MRSA §2101(1)(E)]. The fire chief is the authority having jurisdiction for local fire and emergency services departments, and must “*provide a training program for firefighters within the municipality in cooperation with appropriate governmental agencies*” [30-A MRSA §3153], and for certifying each member's preparation to perform assigned duties.

Types of Fire and Emergency Services Training Needed: Training and education for fire and emergency services personnel can be grouped into three levels – core training, enhanced training, and specialty training: (see illustration “Training Needs Pyramid: Fire and emergency services Responders, Appendix A)

1) Core Training: Core training for fire and other emergency services personnel focuses on the basic skills that every responder should be proficient in to protect health, lives, property, economic well being and the environment. Core training includes assessing hazards, responding safely, providing service while working within an incident

management system, and protecting lives and property from further harm during emergencies that are commonly encountered locally.

Core skills must be developed prior to an individual's assignment to emergency duties, and must be practiced on a regular basis to ensure proficiency, safety and effectiveness. Generally, access to core training facilities needs to be available to Maine's responders on a regular basis.

For fire personnel, the core training needs include understanding the basics of prevention, protection systems, fire attack and suppression; mission and scope of emergency organizations; risk assessment and personal protection. Core training topics include emergency vehicle operations, residential fire attack, search & rescue; auto extrication, wild land firefighting, fire prevention and public education activities, incident management/command systems (IMS/ICS), and hazardous materials and anti-terrorism awareness.

Core training is generally organized into comprehensive curriculum packages such as EMERGE Responder Orientation, Telecommunicator, Firefighter I, Hazardous Materials Awareness and Operations, Emergency Vehicle Operations Course (EVOC), Emergency Response to Terrorism, and Driver-Operator. 12,000 Maine firefighters in nearly 500 communities need to become proficient, and remain so, in these core skills.

Emergency Medical Services (EMS) personnel are trained and licensed in one of 4 license levels. Two are basic life support (BLS) and two are advanced life support (ALS). For each of these license levels, core training includes both didactic and clinical areas.

2) Enhanced Training: Enhanced training for fire and other emergency services personnel builds on their core training, developing skills that are necessary to meet specific and higher-hazard lower- frequency local and regional emergencies. Enhanced training prepares emergency personnel to educate citizens to protect themselves from risks, to safely respond to incidents of higher severity, and to work with all other emergency responders to mitigate community and region-wide emergencies and disasters.

Enhanced skills are built on existing core skills, under realistic scenario conditions, and generally must be updated on a regular basis as hazards, contexts and personnel change. Generally, access to enhanced skills facilities ought to be available several times each year (quarterly, for example).

Fire personnel enhanced training needs include commercial and industrial fire protection and suppression, technical rescue and integrated emergency management, hazardous materials, terrorism and weapons of mass destruction, and multi-casualty incident operations, as well as region specific hazards (such as shipboard firefighting, transportation incidents and industry specific hazards).

Enhanced training for fire personnel is presented as part of training courses such as Firefighter II, Rescue Technician, Hazardous Materials Technician, Fire Officer I and II, Fire Instructor, Fire Inspector, Fire Investigator, and Fire and Life Safety Educator. Every fire and emergency services organization should have a cadre of personnel trained to the enhanced level.

Enhanced training for EMS personnel includes hazardous materials, ambulance vehicle operator training, and mass casualty incident training. Weapons of mass destruction and terrorism are currently part of an enhanced training program; however, as a result of more recent events, this will likely become incorporated into the core curricula for EMS training in the near future.

3) Specialty Training: Specialty training for fire and other emergency services personnel prepares specialists and command personnel to work with community, industrial and other leaders to manage highly dangerous incidents with potential for widespread and deadly consequences. Enhanced training prepares key personnel to organize community, regional, state and federal resources to prevent, mitigate and resolve high-impact incidents.

Specialty skills generally require in-depth reasoning, teamwork and fine motor skills in high-stress environments. Keeping skills sharp requires practice. Generally, Maine's emergency responders ought to have access to specialty training facilities at least on an annual basis.

Fire personnel specialty training needs include community risk assessment, urban wild land interface fire protection and suppression, advanced technical rescue, aircraft firefighting, and multi-agency and region-specific emergency preparation and mitigation.

Specialty training for fire personnel is offered by a wide variety of agencies. Examples of the training include Fire Science Technology Associate Degree courses, National Fire Academy direct-delivery courses in Maine communities, inter-agency exercises and drills, special workshops and seminars.

EMS personnel specialty training includes water rescue, high angle rescue, wilderness rescue and other medical or rescue training that may be required by a given service or municipality in order that they may be better prepared for the needs of their service area.

Study Processes and Methods

Fire and emergency services and EMS Chiefs' Training Facilities Survey:

In July 2002 the training facilities committee distributed a questionnaire to 465 fire and EMS chiefs statewide (see *Appendix B*). Approximately 185 chiefs replied, a response rate of 39.7%. The survey responses can be considered representative of all Maine fire and EMS chiefs, with a margin of error of $\pm 6\%$.

Survey Limitations: The survey methods had several inherent limitations including:

- Since 185 of the 465 chiefs responded, there are no guarantees that the sample is representative of all chiefs (see map of respondents, *Appendix B*).
- Since the survey asked for the judgments to one person (the chief), his/her reply may, or may not, be indicative of the department as a whole.
- The groupings of training categories (core, enhanced, specialty) in the survey may have been interpreted differently by some respondents.

Survey Observations and Trends: The survey data was compiled, displayed in tabular form (see Appendix B) and analyzed by committee members. The analysis resulted in the following committee interpretations:

Members training in last year: Survey results identified a total of 7411 fire and EMS members trained in the last year in core (4350 members), enhanced (1278), and specialty (1783) skill areas.

- A breakdown by service type reflected similar training trends among fire and EMS members.
- A breakdown by staffing type showed that volunteer/call members tended to train more hours (and more members) in core activities than in enhanced or specialty.
- Compared to volunteer/call members, a higher percentage of career firefighters are completing enhanced or specialty training.

Average training hours per member: Results by staffing type showed that fire only members averaged 72 hours of training in 2002 (46- core, 12-enhanced, 14 - specialty); EMS only members averaged 47 hours (36-3-8); and fire and EMS members averaged 133 hours (89-17-27).

- Average hours of training by members showed a significant commitment by members to training, and validated the trend identified in question #1 that members average more hours in core training than in enhanced or specialty training

Anticipated hours change in the future: Of the respondents who had an opinion:

- 89% of fire only anticipated a increase in training
- 87.5% of EMS only anticipated a increase in training
- 82% of fire and EMS anticipated a increase in training

When most likely to training: For fire, EMS and fire/EMS departments weeknights were the most likely time for core training. Weekends were the preferred time for enhanced and specialty training.

- When broken down by staffing type, volunteer/on call and combined departments tend to train weeknights for core, and weekends for enhanced and specialty. Career tended to train more weekdays, occasionally weeknights and weekends, on all types of training.
- No appreciable difference in training times appeared for fire and EMS members.

Distance willing to travel: All departments types (fire only, EMS only and fire/EMS) and staffing types (volunteer/call, combined and career) preferred to train in core training under 25 miles travel distance.

- While chiefs showed a willingness to travel for enhanced and specialty training, few were willing to travel over 50 miles for any training.

On-site training facilities: All department and staffing types showed they have had some success utilizing local or “make-do” facilities for core training, but much fewer for enhanced or specialty training.

Condition of training facilities: Apparently due to complications with this question, the results were inconclusive. The comments section of the survey provides insights into replies.

Most valuable type of training facility: All department and staffing types supported – by large margins -- local training facilities as most valuable, followed by regional facilities, with centralized facilities the least valuable of choices.

Specialized training needs: The comments section provides respondents' insights. Comments are on file with Fire Commission staff.

Department staffing and EMS Personnel in dept: Results of these questions were inconclusive, but may provide foundation data for the future.

Internet access within the next 2 years and percentage of members: The majority of department and staffing types anticipated that they will have internet access within the next two years.

- Chiefs of all department and staffing types estimated that at least 50% of the members have or will have internet access within the next two years.

Interest for on-line CEH program and willingness to pay: The majority of department and staffing types were interested in on-line continuing education hours (CEH's) and were willing to pay something for the service.

The results of the individual survey questions showed consistent trends. The survey results tended to confirm anecdotal evidence of the need for a mix of local, regional and centralized training facilities as part of a comprehensive training facilities program.

Current Training Facilities

Grant Funded Local Facilities: Presently there are 29 firefighter training facilities in Maine. These facilities, ranging from very modest “smoke mazes” to multi-functional training centers, have been constructed by local fire/rescue department members with assistance from a grant program administered by Maine Fire Training & Education (MFT&E) since 1986 (see *Appendix C*).

The MFT&E grant program, funded by Fire Investigation & Prevention Tax fire training revenues, has been instrumental in supporting the construction of modest basic firefighter training mockups and facilities. Grants were awarded to local communities based on a competitive, peer evaluation, process. Grants could fund up to 20% of construction costs, with “in-kind” contributions (such as land, building, labor, etc) allowed to make up the 80% local share. From 1986 until 2000, MFT&E grants to local communities totaled \$260,502.68, and local contributions totaled \$1,294,473. The \$1.5 million in funds and in-kind contributions, coupled with much volunteer and compensated local labor, have yielded a network of low-tech training mockups and modest facilities across the state.

In 2001, MFT&E discontinued the construction grants and instituted modest grants to existing facilities for maintenance. These grants (totaling from \$7,000 to \$15,000 per

year) have addressed a critical need for on-going preventative maintenance at many of these facilities.

There are several critical shortfalls to the current grant-funded system:

- 1) Construction standards have been lax. Even though the grant program required that construction of facilities meet NFPA 1410 “Guide to Building Fire Service Training Centers”, the document is a guide, not a valid construction standard. Local code enforcement approval of construction was required. Consequently, facilities have not been uniformly designed or constructed.
- 2) Management and maintenance has been an on-going challenge for local facilities, especially in communities served by volunteer and call firefighters. A more comprehensive and effective program of maintenance, matched with adequate resources, is necessary to ensure the safety of firefighter training at local facilities.
- 3) Since construction grants were awarded year to year in a competitive fashion without firm distance criteria between facilities, some areas of the state have more facilities that absolutely necessary, while other areas lack adequate facilities within reasonable travel distances.

While several adequate facilities have been constructed in Maine to support fire training, the challenges of local ownership, management and maintenance with inadequate resources – and the limited training activities that can be supported at many of the current facilities – necessitate a more comprehensive and well-funded approach to training facilities construction in Maine.

Local Makeshift Training Facilities: Faced with challenges to train firefighters in basic skills without adequate facilities, many fire departments resort to constructing makeshift training mockups or using existing buildings (such as their fire station or acquired local structures) for training. This practice meets local needs but lacks statewide uniformity and may expose firefighters to unnecessary risks.

CONCLUSIONS AND RECOMMENDATIONS

Statewide Fire and Emergency Services Training Facilities Needs

The numbers of personnel to be trained, the frequency that skills must be practiced and refreshed, the need for specialized training facilities for many skills, and the geography of Maine indicate a need for a comprehensive, coordinated approach to fire and emergency services personnel training facilities. A comprehensive approach- utilizing one state training facility augmented by several regional facilities and supported by local facilities- appears to be necessary to cost-effectively meet the training needs of all Maine’s fire and emergency services responders.

State Training Facility: Maine is the only New England state without a state fire and emergency services training academy. A state of the art facility for Maine’s emergency responders is long overdue. A state facility could offer all levels of training (core, enhanced and specialized) and serve hundreds of responders each year.

The focus of a state facility would be three-fold:

- 1) Preparing pre-service career responders – and volunteer responders in the immediate geographic area – in core skills training
- 2) Training personnel career and volunteer personnel in the region in enhanced skills training
- 3) Offering specialty training to fire and emergency responders from communities statewide

An effective state training facility would include full-service structures, mockups and simulators to support a wide variety of core, enhanced and specialty training for hundreds of responders each year.

- All necessary training support resources and infrastructure including fire and emergency response apparatus, equipment, supplies, etc.
- Weekday, evening, and weekend availability year-round
- Distance learning technology for statewide interaction
- Administrative, training and support personnel offices
- Lodging and meal facilities

A state fire and emergency services academy could be constructed- and supported-using state and federal funds, preferably in collaboration with agencies and utilizing existing classroom, lodging, and other infrastructure.

Regional Training Facilities in Partnership: Travel distances, limited time to devote to training, the need to be available to respond, and the sheer numbers of responders to be trained will require that a limited number of regional training facilities be provided.

The primary focus of regional facilities would be:

- 1) Complimenting the state facility by augmenting high-demand mockups and simulators.
- 2) Serving career and volunteer responders in the region in core skills training and enhanced skills training, generally evenings and weekends.
- 3) Offering region-specific specialty training to fire and emergency responders in the region (shipboard firefighting for coastal-area responders, for example).

Cost-effective regional training facilities would include:

- High usage mockups and simulators to support core, enhanced and specialized training for emergency responders in the region
- Modest training support resources and infrastructure including limited fire and emergency response apparatus, equipment and supplies
- Weekday, evening, and weekend availability year-round
- Distance learning technology for statewide communication and interaction
- Modest administrative, training and support personnel offices

Strategically located regional academies should be constructed and supported using federal, state, county, local and private resources. In addition, these regional facilities should preferably be constructed and supported in collaboration with current facilities and utilizing existing classroom, lodging, and other infrastructure.

Support for Local Training Facilities: Maintaining core skills proficiency in fire and emergency personnel requires constant practice. Evening and weekend training sessions are necessary for volunteer fire and emergency responders. For career personnel, on-duty drills are a constant priority. Travel to a state or regional training facility on a daily or weekly basis will not be possible for many, if not most, of Maine's responders. The third component to a comprehensive approach to emergency responder training facilities is support for safe, very basic local training facilities. The primary focus of local facilities would be:

- 1) Complement state and regional facilities by offering basic, high-frequency training mockups for residential fire attack, ladder practice, auto extrication, pumping, etc
- 2) Locally-specific facilities to meet local training challenges.

Locally owned training facilities, with modest state support, could provide:

- High usage basic mockups and simulators to support the core training needs of local and mutual aid responders
- Basic training support resources and infrastructure
- Weekday, evening, and weekend availability year-round
- Distance learning technology for statewide interaction
- Very modest administrative, training and support personnel offices, if needed

Grant support for local training facilities, such as the Firefighter Training Facilities Grants administered by Maine Fire Training and Education, could offer very modest state resources to assist local communities in building and maintaining local facilities that complement regional and state facilities and meet the needs of emergency responders in the area.

NEXT STEPS

Formal Study

A formal study by an organization experienced in engineering and architectural services needs to be funded and completed to determine the most appropriate state, regional and local facilities designs, locations, construction standards, operations and management.

State Training Facility: The site selection and construction planning process must be conducted thoroughly and thoughtfully, with full participation of stakeholders, to ensure the likelihood of successful and timely implementation of the project. Process benchmarks should include:

- Needs assessment, including goals and requirements of the fire and emergency services personnel to be trained; level of activity and types of training expected; and components of the facility
- Site desirability, including formal site investigation, USGS survey, FEMA flood plain data, wet lands analysis, hazardous site listings, soil types and conditions, environmental evaluation, and adjacent conditions
- Access to infrastructure such as public water, electrical and communication utilities and existing resources that may be shared or enhanced

Regional Facilities: Site selection and construction planning consideration for regional facilities are similar to the state facility. In addition, consideration must be given to:

- Meeting the goal of locating facilities within 60 minutes travel of 90% of Maine's fire and emergency services responders.
- Identifying state, county or local partnering agencies to host regional facilities.
- Providing facilities designed and constructed to uniform standards to enhance cost-effectiveness, safety and ease of maintenance.

Local Facilities: Supporting the construction of modest new local facilities, or enhancing the existing facilities, may best be accomplished by establishing a construction and maintenance grant program. The goal of site selection and construction criteria for grants to local facilities would be to:

- Meet the goal of providing local facilities within 30 minutes travel of 90% of Maine's fire and emergency services responders.
- Identify county or local partnering agencies to own and maintain local facilities.
- Provide facilities designed and constructed to uniform standards to enhance cost-effectiveness, safety and ease of maintenance.

SUMMARY

Maine's estimated 15,000 fire and emergency services responders are faced with unprecedented risks and demands for service. Training needs have never been more critical to their life-saving work. The lack of uniform, safe, multi-purpose training facilities threatens to put emergency responder and citizen lives at risk.

The Maine Fire Protection Services Commission's training facilities committee's preliminary study of training facilities needs in Maine points to one inescapable conclusion: **Maine needs to develop and implement a comprehensive program of fire and emergency services training facilities construction, operations and maintenance.**

A collaborative approach among federal, state, county and local governments and private industry appears to be the best way to develop a state fire academy available to all fire and emergency responders and provide all types of training; a limited number of regional facilities for core and enhanced training; and also support construction or enhancement of a few local training facilities for core training. This mix of facilities, necessary because of Maine's geography and fire and emergency services staffing demographics, will cost-effectively serve the current - and foreseeable future -- needs of Maine's responders.

Maine must ensure that its fire and emergency responders have the facilities they need to develop the skills necessary to safely and cost-effectively execute their dangerous and demanding duties protecting Maine citizens' lives, health, property, economy and environment.

This report provides a first step toward attainment of that goal.